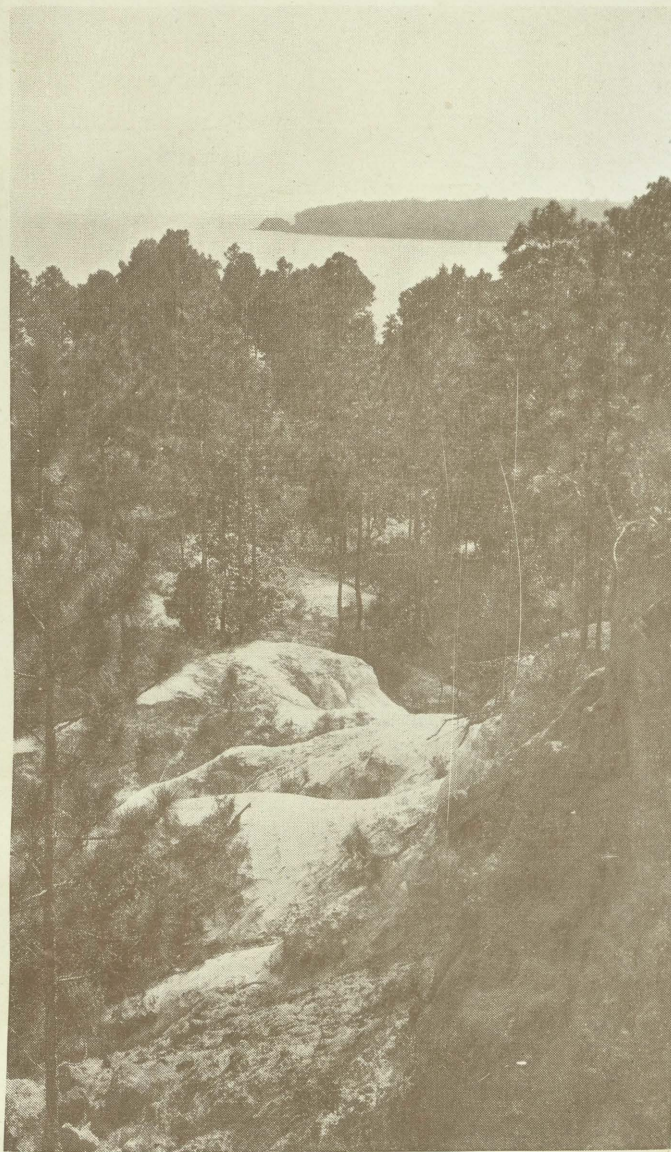


FLORIDA HIGHWAYS



Vol. 3

JANUARY, 1926

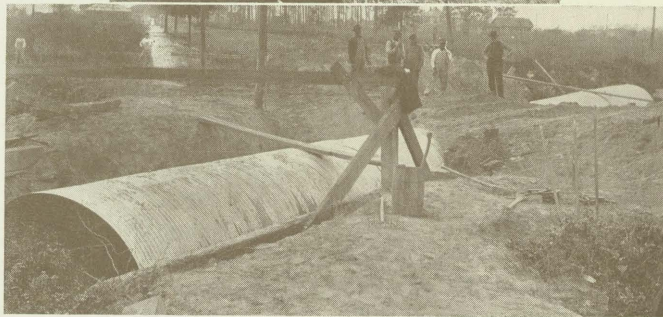
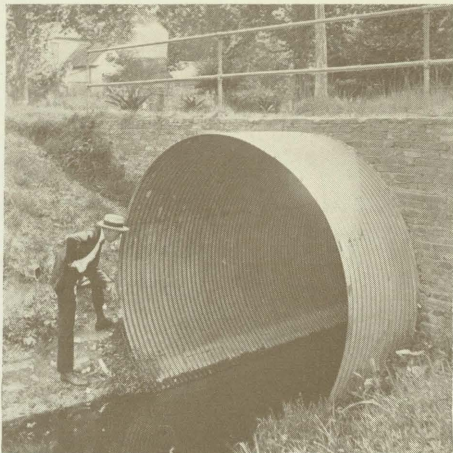
No. 1

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Published by the State Road Department

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Above: Culvert at Waycross, installed 1910.
Below: Culvert recently installed under new road at Waycross farther up on same creek.



At Waycross, Georgia, just across the line from Florida, the old Armco Culvert, 9 feet in diameter, shown above at the left, was installed in 1910. Today it is still in perfect condition. In fact, it has lasted so well that when just recently a new road was built farther up on the same creek, an Armco Culvert was used there also. Armco installations are permanent!

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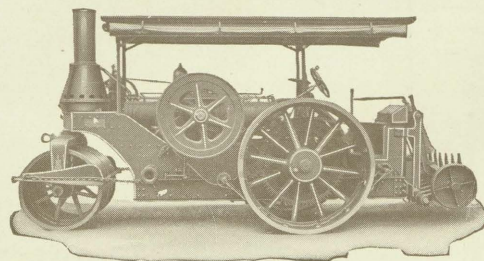
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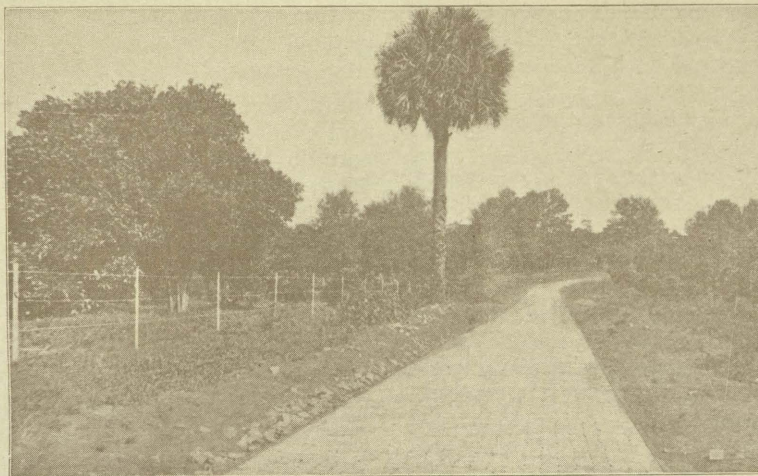


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FLORIDA HIGHWAYS



Vol. III

JANUARY, 1926

No. 1

Highway Police and Highway Safety Devices

By JOHN A. MacDONALD, State Highway Commissioner, Connecticut

Highway engineers have had many problems thrust upon them due to the increasing number and to the ever-increasing speed and weight of motor vehicles.

As they increased in number and operating speeds increased there came a steady increase in highway accidents, resulting in loss of life and damage to property to such an extent that the public generally, as well as the engineers, realize that the condition had to be relieved.

To the engineer not yet provided with sufficient information relative to foundations and surfaces, nor with sufficient means to provide a suitable number of lanes for highway transport, nor with sufficient information as to the limits of increase, of speed and weight, came the responsibility of providing safety as well as strength; and, as is usually the case with public questions, the cheapest possible method was resorted to—that of restriction which increased the problem and delayed and increased the cost of solution.

The various legislatures passed laws providing for a restricted use of the highway, a restriction on speed, and restricted the various uses which had heretofore been enjoyed. The engineer devised signs and schemes for the slowing down of traffic at the more dangerous locations.

Neither of these were effective for any length of time. The laws were ineffective as passed, due to their lack of enforcement. The signs served their purpose for a short time, but readily created congestion and accidents.

To correct one of these conditions, highway police and patrols were provided to enforce the various rules as laid down. To correct the other, many safety devices were provided.

It is not my intention to devote any time to the question of the necessity for highway police, as I come from one of the New England States where it is a foregone conclusion that a law is only as good as its enforcement. These organizations will come either by the creation of a new force or the expanding of an old one when a persistent demand is made by the public for enforcement against the willful offender. Nor is it my intention to devote any time to the method of organization, as this is a matter which naturally must be handled by each political subdivision in its own way, due to the many local policies and conditions, and will, no doubt, take the usual form of all legislation progressing through its various stages.

It is impossible to organize a force of this kind perfect, but by progressive legislation it may approximate that condition.

However, after having passed through the organization of one highway patrol and being intimately connected with the reorganization of a police department, and having an opportunity to study each in actual operation, then seeing both combined, and having an opportunity to study the results—and considering the type of work specifically laid out for any highway police organization—it is my opinion that it should be entirely separate from the enforcement of or the work connected with any other police matters.

The minimum duties of any highway patrol should be:

1. The examination of operators for licenses, and the examination of the safety features of the vehicles themselves.
2. The prevention of damage or unwarranted use of the highway.
3. Enforcement of the motor-vehicle laws or code.
4. Supervision of the movement of traffic.
5. The prevention and investigation of accidents.

It is very important that officers connected with organizations which have to do with highway traffic be educated to an entirely different viewpoint from the ordinary policeman, and should become specialists along the lines of the their respective duties, as they deal not with the ordinary criminal class as a rule but with an entirely different class of people, and for an entirely different purpose. No matter how reasonable such a force may be in its enforcement, it can not help but produce an actual revenue in excess of expenditure. It is not to be assumed by this that at any time will there be sufficient means provided which will enable highway police to cover every point where their presence seems necessary. Consequently, the foundation of any highway police patrol must be an information and statistical bureau to produce the required statistics and the information as to where they should concentrate their efforts.

The only scheme yet devised that I know of requires each accident upon the highway to be reported to a central agency, there to be analyzed as to cause and locality, and the information thus obtained presented back in simple form to the officer for his guidance.

In addition to this, it is necessary that he know accurately the kind, the peak load, etc., of traffic on the highways to properly gauge his information, and a traffic census is as important to him almost as it is to the highway designer. A traffic census gives an officer the weight to measure his statistics and show his relative worst condition and where his presence is needed most. With this fundamental knowledge, his every movement is towards the prevention of accidents without the loss of efficiency, and what he lacks in numbers is made up by his efficiency.

The efficiency of any organization of this kind is not to be measured as is the ordinary police department by the numbers of arrests it makes or the number of convictions it secures, or by the amount of revenues it produces, but by the reduction in the number of accidents and the condition of the traffic which it directs.

It must study the causes of accidents, and if the

cause is one for education, propaganda and orders must be sent forth. If it is one for enforcement, the proper orders must be issued and a uniform enforcement policy immediately instituted.

A force of this kind should be directed principally against the worst condition until it is eradicated or corrected, gradually stepping down the ladder until a distinct improvement in accidents and traffic is noticed.

Enforcement must always be standard and not spasmodic. The public must necessarily be taught and constantly reminded that at certain places they can do certain things with safety, and at certain other places it is impossible.

This force must be properly equipped and the personnel adequate. By this I do not mean numbers, but intelligence. Above all things, it must have the confidence of the public and the support of the courts behind it. To gain public confidence and the support of the courts its enforcement must be reasonable, equal against every person, and just. Its officers must be gentlemen, hard-working, sober, industrious, helpful, and fair. It must operate within a reasonable expenditure of money, and it must uphold the dignity of the political subdivision that it represents.

Now, often times, due to conditions, an officer is not necessary at all times, so we avail ourselves of his substitute—the highway safety device; and, in so far as I am able to define it, it is a device which will either give direction or warning to pedestrians or traffic—which definition would include reflectors warning signs, guard rails, beacons, fences, light-houses, silent policemen, lights, buttons, symbols on pavements, etc., and so on. There are many forms and kinds, and I believe that you are as familiar with them as I am. It is with their use and misuse principally that I am concerned.

The time probably will never come when we will have a sufficient number of lanes for traffic so that a certain amount of restriction will not be necessary to properly regulate and move traffic, and we will necessarily have to depend on some devices; but no safety device should ever be used that has for its objective the slowing down of traffic.

It is impossible now for us to build highways fast enough to even keep abreast of the motor vehicles that are being put into use, and if we are to make our highways adequate to carry the traffic we must raise the efficiency of the highway; and the only way that I see that this can be done is to increase the speed on the highways, bearing in mind at the same time that the accident rate must not increase, but decrease.

Many of us find ourselves maintaining roads (I am not going to call them highways) on locations of old Indian trails, winding in and out through hills and valleys, as the Indians walked and sometimes I am inclined to think staggered instead of walked. Even these highways might be used with safety if the driver of a vehicle would operate his vehicle in such a manner as to be capable of stopping it within the range of his vision, but the average motorist is rather indifferent to safety and demands convenience with or without safety, and convenience to him means not congestion but speed.

This rule would, no doubt, be impossible of enforce-

ment for the reason that it would immediately create congestion following its introduction, and so we proceed to place what we are pleased to call warnings at these dangerous locations for his safety.

It has always been a question, in my mind, whether the net result of any safety device is not only to increase the speed. I know from experience that we gain little on the safety side of traffic by slightly improving the sight line, as the speed generally increases to such an extent as to nullify the additional sight line.

Any highway safety device has for its purpose to give the driver of a motor vehicle a picture of what he is to encounter ahead of him, so that his speed will not be checked and too much strain will not be put upon his attention, and the picture that you desire him to get may or may not photograph on his mind correctly and so allow him to correctly judge his position. If your device happens to be good enough to attract his attention sufficiently, he goes on his way; if not, unless he is lucky—especially if two or three other conditions are present—an accident.

Many men have many minds, and one driver in Ohio, getting the proper picture from the Ohio standard, may take a notion to drive into Virginia and not receive from the Virginia standard the proper picture; so that if we can have one standard it will help.

Up until the present time many systems of warning signs have been used without regard for uniformity. Recently a board appointed by the Secretary of Agriculture has put forth a very complete, common sense and simple system of uniform signs which, I understand, is to be adopted on all Federal-aid roads. It would seem a great step in the future if these signs could be adopted for all highways, whether Federal, State, county, or township, so that a uniform system of highway markings might be thus obtained; and, after the uniform system, if we could find some way to have uniformity of minds to register on the problem would seem solved.

There is also a standard for colors proposed by the Sectional Committee of the American Engineers Standards Society which, while probably not perfect, should be used in so far as possible.

Up to the present, apparently not enough attention has been paid to the placement of devices. Some are very efficient in fine weather or in the daylight, but very poorly placed after dark. It would seem that each should be located at a time when conditions were worst.

It is very important that devices be uniformly placed along the road so that operators of motor vehicles will know where to expect to find them. It is also important, due to the development of motor-vehicle headlights, that signs be low enough so as to come within the rays of headlights at night, and good practice would recommend that all direction and warning signs be located at night with automobile headlamps for guides, and if possible in stormy weather.

During fair weather and when the highway is clean, and when the headlights are properly focused, symbols painted upon the pavements have been very efficient; but if there is snow or ice on the highway, or the highway is dirty, or a temporary type of pavement is used, these signs are of no value, and in

many places they have become so numerous that the public has generally ignored them.

The worst possible condition I can think of is the motor-vehicle operator who can not read, is color-blind and is operating a car against glaring headlights on a strange road after dark and in a snowstorm. That is my test for a good device; and if it can give the operator of the vehicle the proper information at that time, then I would not hesitate to use it.

Too many devices destroy the value of important devices, and the tendency has always been to place more warning devices than are necessary, and fewer directional.

The grade crossing has been one of the points that has attracted many inventors and originators of safety devices. In so far as I know, no one system or any combination of them has been effective as yet. To my mind, they all have for their objective the slowing down or the stopping of traffic, which is again the old restrictive idea.

Most of the devices which I have noticed at grade crossings call for a stop. It would seem to me that a cautionary sign at this point would serve the purpose as well and still allow the operator of the vehicle to use his own judgment.

Any highway safety device should be positive at all times. It should say exactly what is to be insisted upon—no more and no less. Devices which do not follow this rule and which say what they do not mean really cheapen the effect of other necessary devices.

To my mind, elimination is the only safety device which apparently is effective at grade crossings. It will, of course, never be possible to eliminate all the dangerous conditions, but when it is realized that within the next 30 years we must expect three and one-half times the present-day traffic, it would seem that we should hesitate in the matter of placing highway safety devices and realize that the fewer of these that we use the easier our future problems will be to solve.

If we do not shortly begin to relocate some of our present-day highways, built years ago principally for horse-drawn traffic, and to remove some of the safety devices that we are now using and make the highways really safe without their use, we are going to find ourselves in the same position that the cities and towns are finding themselves in regard to the parking situation. Every effort should be used within, of course, the theory of economy to eliminate every possible warning or safety device.

Highway engineers must carefully study their locations and relocations with an idea of creating, as traffic increases, as few dangerous conditions as possible, so as to decrease the use of such devices, for as we increase and improve the surfaces we can expect a greater rate of speed which will be productive of more accidents unless we do.

The indifference of the general motoring public to safety seems to be the reason why many of these devices are in use. I see no reason at all for the use of the white line on curves or at the top of a hill. This white line, no doubt, increases our maintenance cost on some highways more than it benefits traffic, because it keeps the traffic in a rut. If there is a



Florida Highways

Published Monthly

Official Publication of the State Road Department

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This magazine is edited in the offices of the State Road Department, Tallahassee, and published monthly. Subscription rate, one dollar per year. Permission is granted to republish, with proper credit, the matter contained herein.

Application has been made for transmission through the mails as second-class matter.

B. A. Meginniss, Attorney for the Department,
Editor and Business Manager

Volume III

January, 1926

Number 1



TEN DOLLAR PRIZE

How well do you know your Florida? We are publishing in this issue a number of views of Florida roads and scenes. They are taken from various sections of the state and are presented without indication of what they are.

For the first correct list showing the location of each of the pictures presented, FLORIDA HIGHWAYS will give ten dollars. The contest is open to everyone who sees this announcement except to those who are now or have been heretofore connected with the Department. To assist you, we will state that every one of these views has been heretofore printed in this magazine, and your old copies of FLORIDA HIGHWAYS may be valuable in this connection.

Who wants this ten dollar bill?

THE QUARTERLY MEETING

While the first quarterly meeting of the Department was held prior to going to press with this issue of FLORIDA HIGHWAYS, it has been impossible to present the full minutes of the meeting without delaying the issue. The full transactions will accordingly appear in our February issue.

High lights of the meeting, however, which resulted in the yearly organization of the Department by the re-election of Dr. Hathaway as Chairman, and Walter P. Bevis as Secretary, include the following:

1. Authorization of the employment by the Chairman, with the approval of the Governor, of a traffic manager at a salary of not exceeding \$250.00 per month. The duties of this employee, who had not been named at the time of going to press, will be to see that the Department receives an adequate car supply for moving its freight, to facilitate deliveries of freight to the Department and to assist contractors in securing prompt deliveries of materials going into their respective jobs. The present freight congestion has demonstrated the value of having some one man who could devote his entire time to keeping in touch with the freight situation as it affects the work of the Department, and it was felt that the plan adopted would tend to secure that result.

2. Designation of Messrs. Green, Schilling and Chairman Hathaway to determine the definite location of the Tamiami Trail, or Road No. 27, as it is officially designated. The Department regards this road as one of the most important of its projects, and realizes the necessity of determining as early as possible the definite route which the road shall take. The action of the Department in this particular will make it possible for the members named to designate the location without waiting for another formal meeting of the Department three months hence. The road will extend from the West

(Continued on Page 19)



Dr. Hathaway Re-elected

At the regular quarterly meeting held at Tallahassee on January 27th, Dr. Fons A. Hathaway, of Jacksonville, member of the Department from the State at Large, was re-elected Chairman of the Department and will continue to maintain his official residence in Tallahassee as required by law.

Dr. Hathaway has been Chairman of the Department since his appointment as a member last summer, and since assuming the duties of the office has visited every nook and corner of the State with a view to gaining first hand information as to the actual work of the Department and adequate knowledge upon which to base his recommendations as to its program and policies. As a result of this plan, Dr. Hathaway has acquired a first hand knowledge of all the work of the Department both as to

work being done by it and work which is being done under contract. He is in close touch with all the work under construction and is insisting that the work in every department be speeded up and facilitated to the end that Florida's program of road construction shall be accomplished at the earliest possible moment.

The manner in which Dr. Hathaway has taken charge of the work gives ample evidence of his executive ability and his determination to achieve the purposes for which the Department was created, and his unanimous re-election is significant testimony of the belief of the members of the Department that he is filling the position in a manner which will reflect credit upon the Department and result in carrying forward its policies and plans with the utmost facility.

HIGHWAY POLICE AND HIGHWAY SAFETY DEVICES

(Continued from Page 3)

motor-vehicle operator at the present time who is not educated up to the fact that he should drive on the right-hand side of the road at a curve or on a hill, and should not pass vehicles where the sight line is obstructed, then it seems to me that his education has been sadly neglected, and the most effectual safety device for him is 10 days in jail.

Many safety devices are used not with the idea of prevention of accidents but so that the responsibility for the accidents may be placed after the accident. The white line painted on pavements is much over-worked for this purpose.

To me, signs used for the purpose of giving directions as to the allowable speeds are faulty for they encourage a speed which may be unwarranted by the traffic conditions, by the limitations of an operator, by the limitations of the vehicle and the highway. They seem to set up a standard for operation which all drivers can not meet.

The purpose of any device should be to move traffic and not retard it, and it has always seemed to me a short-sighted policy to place a device at an inconvenient point in the highway so traffic will necessarily have to slow down to make the movement, creating bottle necks, as, if you have studied traffic, you know that traffic will do the thing which is most convenient whether or not it is safe; and the inconvenient sign is only effective when an officer is watching it.

Devices containing advertisements are little more than useless. Personally, I have always felt that the so-called lighthouses, flashing beacons, silent policemen and other devices of the same type within the traveled path were a detriment to safe direction and cause more traffic accidents than they prevent. I know all that is claimed for them, but I have always failed to see the wisdom of spending thousands of dollars for the elimination of dangerous locations and then placing an obstruction within the traveled path. It has been my experience that with care and study some other method might be devised which would eliminate the necessity for them.

It is realized that much of this paper has been my own personal opinion, but that opinion has only been formed after careful study and experiment, both with light and congested traffic, on State highways only.

Any part of this paper is not intended to apply to the city problems, as to my mind those problems are entirely different.

I also realize that the subjects of this paper may be debatable, depending upon the section of country you use as your laboratory, but the principle to be used in the placement of any safety device can not, I believe, be questioned; and that principle is that the device must not restrict traffic further, but grant it additional safety, speed, and convenience. The use of the highway police or highway safety devices should never violate that principle.—*American Highways*.

"Speaking of bathing in famous springs," said the tramp to the tourist, "I bathed in the spring of '86."

TEN "DEMANDMENTS" FOR WORKERS

There hangs in a London factory, according to our informant, a list of ten epigrammatic bits of advice for employees. Their crisp phraseology appeals to E. J. Jolly & Son, San Francisco insurance adjusters, who send us a copy bearing the heading "Ten Demandments":

1. Don't lie. It wastes my time and yours. I am sure to catch you in the end, and that is the wrong end.
2. Watch your work, not the clock, a long day's work makes a long day short; and a short day's work makes my face long.
3. Give me more than I expect, and I will give you more than you expect. I can afford to increase your pay if you increase my profits.
4. You owe so much to yourself that you can not afford to owe anybody else. Keep out of debt, or keep out of my shops.
5. Dishonesty is never an accident. Good men, like good women, never see temptation when they meet it.
6. Mind your own business, and in time you'll have a business of your own to mind.
7. Don't do anything here which hurts your self-respect. An employee who is willing to steal for me is willing to steal from me.
8. It is none of my business what you do at night. But if dissipation affects what you do the next day, and you do half as much as I demand, you'll last half as long as you hoped.
9. Don't tell me what I'd like to hear but what I ought to hear. I don't want a valet to my vanity, but one for my money.
10. Don't kick if I kick. If you're worth while correcting, you're worth while keeping. I don't waste time cutting specks out of rotten apples.

—*Literary Digest*.

DRIVING OR SMASHING

It takes alcohol in the radiator nowadays to drive a car—and alcohol in the driver to smash it.—*Fairmont Sentinel*.

PLEDGES FOR POLICE

A good slogan that should be adopted by every police department is "We cannot keep the driver from drinking, but we can keep the drinker from driving."—*Bemidji Pioneer*.

WHERE CEMENT GOES

Estimates published by the U. S. Geological Survey indicate that 24% of the consumption of cement—last year it was 146,000,000 bbls.—is used in paving highways, and about 7% in sidewalks and private driveways; while another 25% is used in public and commercial buildings, and nearly 21% goes for miscellaneous farm purposes.

The remaining portion is employed in small individual percentages for dwellings; concrete pipe for sewers, irrigation, etc.; by railways, for bridges, dams, and for miscellaneous purposes. In all, concrete, of which Portland cement is the vital ingredient, has hundreds of recognized uses.—*Michigan Roads and Pavements*.

Building Roads For The Nation

By **FRANK F. ROGERS**, President, American Association of State Highway Officials

With the discovery and early settlement of America at a time when civilization was just arousing from that long inactive period styled in history "The Dark Ages," and when questions of religious toleration were the most absorbing topics, our ancestors were not so much concerned about systems of internal improvements as they were about laws that should secure to them religious and political liberties. They successfully laid the foundation for a system of schools and churches for which they will ever be gratefully remembered, but depended on the trail, packtrain, and coasting vessel for means of intercommunication. Had our country been settled at the time of Roman supremacy, no doubt an elaborate and costly system of road building would have been introduced, but our forefathers came from countries that had seen no good roads for hundreds of years, and settled, in poverty, on the margins of a wilderness penetrated only by the savage Indian, with whom commercial intercourse was not at all desirable. Under such circumstances we could not expect them to take up scientific road building which had been neglected for more than 1,000 years.

Not until after the close of the Revolution, and the return of Macadam to England, where he began a system of road building that still bears his name, was anything of note accomplished along this line. European activity was then great, and Tresaguet and Telford each also became famous for their own peculiar systems of road construction. England and Continental Europe were soon covered with improved roads, but those on the Continent were mostly built to facilitate the movement of armies and munitions of

war. The spirit of this foreign activity in road building reached the United States and was taken up with considerable vigor in those years which immediately preceded the development of the railroad.

Early Federal Aid

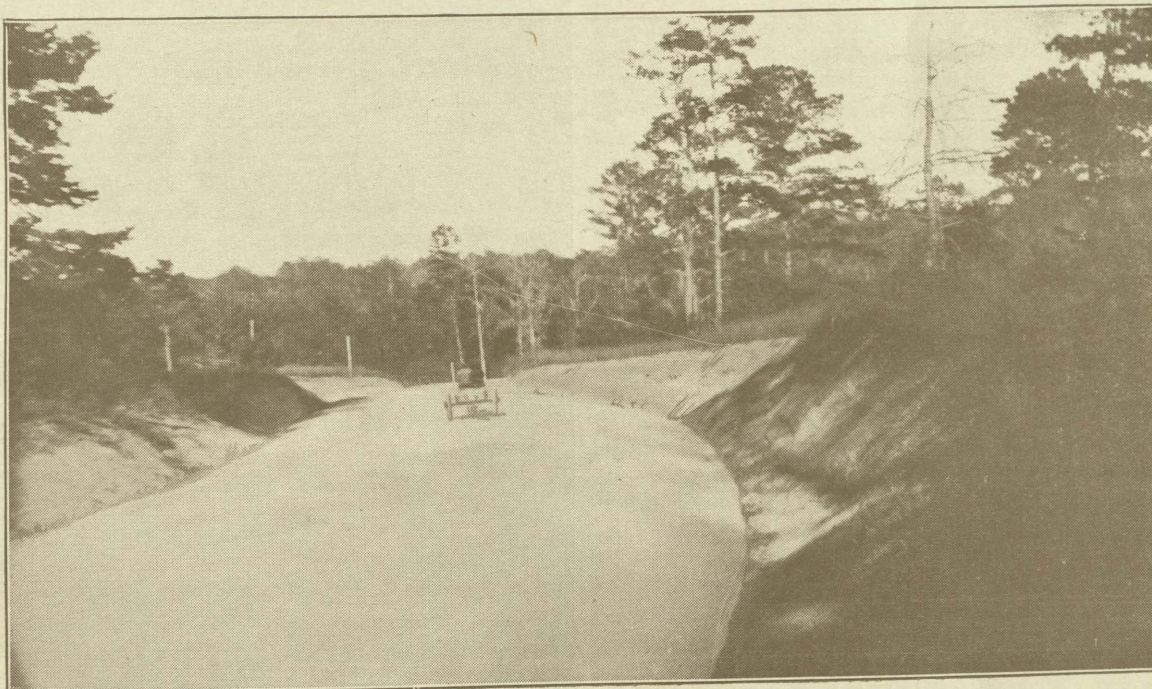
During the first third of the nineteenth century, and before the days of the railroad, the United States was not idle in road building, and not less than \$14,000,000 was appropriated by various acts of Congress for the building and aiding in the building of great highways to penetrate the undeveloped West.

One of the results of such undertakings was the National Road, extending from Cumberland westerly, passing through Maryland, southwestern Pennsylvania, central Ohio and Indiana, St. Louis, Mo., being the objective point, but which was never reached. Some \$7,000,000 of Federal funds were expended on this road alone.

The Wilderness Turnpike, a toll road, aided by the Government, formed a similar highway across central Kentucky and facilitated migration from the Virginia settlements westward.

Federal Aid Questioned

Before the National Road was completed the authority of the National Government to build any road at all was sharply challenged in Congress by the strict constructionists of the Constitution. On the contrary, it was argued that the Federal Government was specifically empowered to set up post roads and that this particular road was primarily a post



road. Although this question was first seriously raised as early as 1821, the advocates of the National Highway prevailed for many years, and each year the appropriations grew larger and the road continued to push its way westward.

As early as 1811 steamboats in considerable numbers began to navigate the Ohio River, making it easier and safer for immigrants desiring to settle in the West to go down the river and settle somewhere upon or near the banks and go by wagon road into the wilderness.

But another enemy to the National Road and Federal aid was now appearing that was more potent. The railroad had begun to be and the question was in every mind whether the Government should not build a railway rather than put money into the extension of the National Highway. In 1836 an effort was made in Congress to make the unbuilt portion of the National Road a railroad, but it failed and the great road slowly moved onward. The controversy at last became so bitter that it is said that the question of continued Federal participation in road building and the protective tariff constituted almost the sole issues between the two great political parties in the decade beginning with 1820, but the railroad at last conquered and the question of Federal aid was dormant for nearly 100 years.

Origin of Good Roads Associations

During the last decade of 1800 the bicycle became a popular and useful implement of locomotion in and about the towns and even for considerable distances over rural highways where they were in suitable condition for this means of public travel. But in this connection it is interesting to note that the Massachusetts Supreme Court held that the bicycle is a "machine" and not a "vehicle," and that an operator of a bicycle can not recover damages because of dangerous places in the public highways.

Coincident with the extensive use of the bicycle, organizations were developed for the promotion of better highways. Indeed, the League of American Wheelmen was, perhaps, the forerunner of most of the good roads organizations which followed, and to quite a large extent the officers in the League of American Wheelmen also became officers in the good roads organizations which followed. For example, Horatio S. Earle, the first State Highway Commissioner of Michigan and a nationally known good roads promoter, had been president of the League of American Wheelmen and later was the real organizer and first president of the American Road Builders' Association (at first called the American Road Makers' Association), which is still a large national road organization.

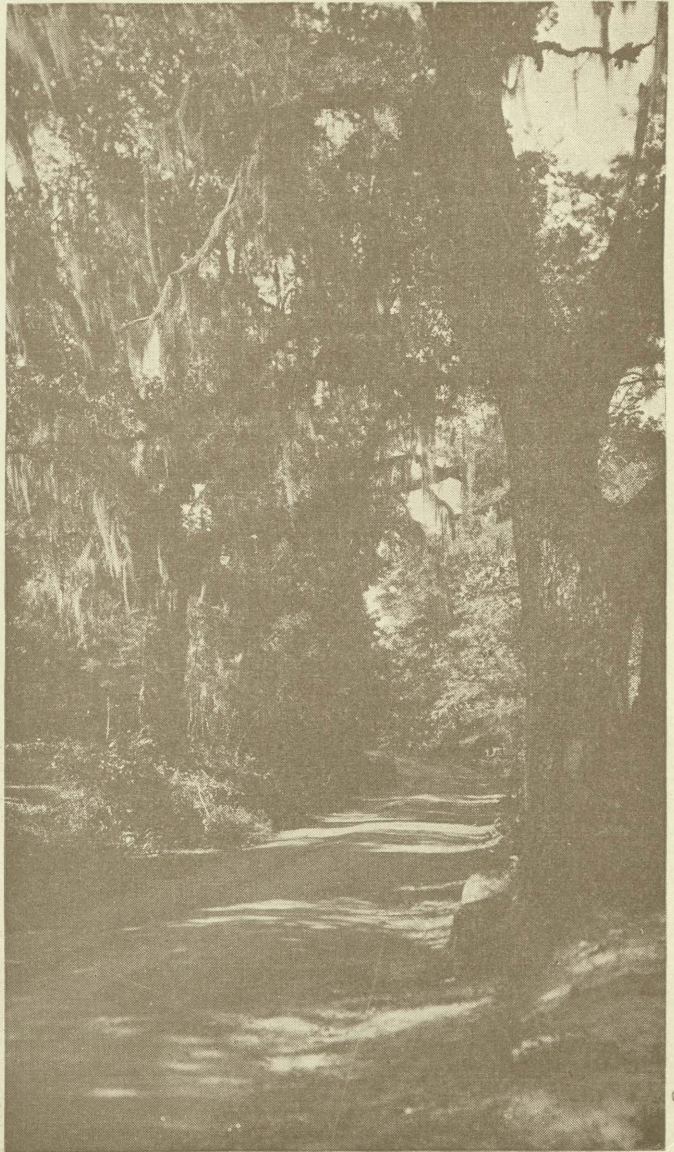
Through the efforts of Logan Waller Page, former Director of the Bureau of Public Roads, the American Highway Association was later organized, of which Fairfax Harrison, president of the Southern Railway, became the first president. For a time each national organization held separate meetings, and at these meetings there was more or less discussion of the subject of Federal aid and also the building of national highways solely at Federal expense.

At the Fourth American Road Congress held at Atlanta, Ga., November 9-14, 1914, under the auspices

of the American Highway Association, the American Automobile Association, and the County Commissioners' Association of Georgia, the first step was taken toward the organization of the American Association of State Highway Officials, which organization, more than all others, is responsible for Federal aid in its present form. A month later in the same year all of the states were invited to send representatives to Washington, D. C., for a second conference, at which time a committee was appointed to draft a constitution and by-laws for the proposed association. This committee also framed the first tentative draft of a proposed Federal-aid highway bill.

In September, 1915, a national highway convention, under the joint auspices of the American Highway Association and the American Road Builders' Association, was held at Oakland, Calif. At that time, in the parlors of the Oakland Hotel, a round table conference was held when the representatives of 25 States went over the proposed bill with great care and made some amendments.

The bill as there amended was introduced in the



next session of (Sixty-fourth) Congress, and with some amendments, but with all the working features preserved, became the first Federal-aid act of the present century.

It is known as Public Law No. 156, and the title provides that "The United States shall aid the states in the construction of rural post roads, and for other purposes."

That the work was well done is now attested by the fact that none of the subsequent amendments have materially changed the working conditions of this original bill.

Up to date there have been five separate Federal appropriations by Congress, totaling \$690,000,000, to aid the states in road building on a 50-50 basis, with Federal limitations of from \$15,000 to \$20,000 a mile, as provided in the different statutes. In addition to this, \$62,000,000 have been appropriated for road building in the national forests.

The net results of this Federal encouragement in road building, up to July 1, 1925, has been the completion of 46,485 miles of Federal-aid roads in the United States and 2,427 miles of roads and trails in the national forests.

State Aid

Long before Federal-aid appropriations were made possible to assist the states in road building, many of the states had expended large sums in building or aiding in the building of public wagon roads within their borders.

The beginning of state aid in modern road building was in the last decade of 1800, when New Jersey, Massachusetts, Connecticut, and New York built many miles of what were then considered up-to-date highways. All were of the macadam and gravel types. This period represented to some extent the reproduction of the work done by Macadam and Telford in England in the early part of the same century. In fact, some 31 states were aiding or building roads with fairly well organized State Highway Departments, when the Federal-aid act of 1916 became a law.

Shall Federal Aid Continue?

It would now seem that the Federal Government is well organized for carrying on the building of roads in connection with the states. A system of roads, 7 per cent. of the laid-out road mileage of the United States, upwards of 200,000 miles in all, has been designated on which Federal aid may be received, thus assuring a connected system of Federal aided highways just as well laid out and with as much certainty of completion as though the Federal Government, at its own cost, were undertaking the building of a national highway system.

The question now before the people of this country is: Shall we have a system of well built and well maintained interstate and national highways, or shall we be content with thousands of miles that are well-nigh impassable for present-day methods of travel?

Since our last meeting committees have been appointed and the work practically completed for marking an interstate system of national highways which will in the near future be uniformly marked and have a uniform system of caution, danger, and direction signs which will enable anyone to travel from

state to state and, in fact, all over the United States with no thought of getting lost and no real danger of getting hurt.

Now that the country is so well organized for carrying on this work, both in the states and in the nation, there should be no thought of a discontinuance of the present plan of road building by the states with the assistance of the Federal Government.

President Roosevelt, in his address before the National Good Roads Convention in St. Louis in 1903, after commenting on the fact that every nation of prominence in the world's history has been a nation of road builders, said: "Merely from the standpoint of historical analogy, we should have a right to ask that this people—this people which has tamed a continent, which has built up a country with a continent for its base, which boasts itself with truth as the mightiest republic that the world has ever seen, which we firmly believe will in the century now opening rise to a position of headship and leadership such as no other nation has ever yet attained, merely from historical analogy, I say, we should have a right to demand that such a nation build good roads."

It is a little disturbing, however, at this time to note that there seems to be, under the guise of reduced taxation, a rather strong propaganda against the continuance of Federal aid in road construction. President Coolidge has said, or at least the press has credited him with saying, that "When the National Treasury contributes half, there is temptation to extravagance on the part of the state. Yet there are constant demands for more Federal contributions. Whenever by that plan we take something from one group of states and give it to another group, there is grave danger that we do an economic injustice on one side and a political injury on the other. We impose unfairly on the strength of the strong and we encourage the weak to indulge their weakness." Later the same person, in an Omaha address, said: "I can see no merit in any unnecessary expenditure of money to hire men to build fleets and carry muskets when international relations and agreements permit the turning of such resources into the making of good roads, the building of better homes, the promotion of education, and all the other arts of peace which minister to the advancement of human welfare." This is more encouraging.

The Road Building Unit

This immediately brings up the question as to what taxable unit of the Government is best fitted and most able to carry on the work and bear the cost of road building in a manner that will best serve all the people, considering the complexity, in all its ramifications, of the present-day uses of the public highways.

It is impossible to study this question without considering briefly the growth of the highway system in this country. It is obviously impossible for the individual or even the family to build suitable roads or trails over which, even in the crudest way, they could transport the barest necessities of life. Such an attempt would limit transportation facilities to a point that would put us on a par with the life of the nomad or savage.

From this the next step was naturally the township unit, which is the smallest organized political sub-

division with powers to levy taxes for highway purposes. For nearly 300 years attempts were made to build roads with the meager funds that could be raised by these small taxing units, and one has only to look around at the highways of today in any of the states to become well satisfied that funds raised by such a taxing unit hardly more than made the roads passable. I can show you roads today less than 100 miles from the city of Detroit that have been maintained by this system and which are no better than they were nearly 100 years ago. In spite of this fact Michigan in 1924 levied township highway taxes amounting to \$12,881,042.46.

The next largest highway taxing unit in all of the states is the county, and a great step forward was made when counties adopted what in Michigan is called the "county road system," laid out a system of county or main market roads and proceeded to improve them with funds levied on all the taxable property of the county, including the cities in which no roads were to be built but which paid in some cases three-fourths or more of all the taxes levied for road purposes.

The Automobile Appears

Later in the early part of the present century, an entirely new modern vehicle for transportation of both men and goods was devised, and today nearly all of the traffic over public highways, whether for pleasure or business, is carried by motor vehicles, and motor vehicle traffic does not stop at county lines, neither does it stop at state lines. Therefore the next step in advance was to bring in a still larger taxing area and levy tribute on all the taxable property of the state for the purpose of building a system of state highways wide enough and strong enough to safely carry in motor vehicles as much of the passenger and freight traffic of the state as may be desirable or economical, regardless of the fact that many poor counties could not build the roads that are necessary to cross their borders in such a state system, even if they were to contribute a sum equal to their total valuation.

Naturally I am better acquainted with conditions in Michigan than in the other states and here we have whole counties with valuation of less than two and one-half millions of dollars and one other county, namely, Wayne, in which the City of Detroit is located, with a valuation fifteen hundred times that of the poorest county in the state. It was unthinkable that a state system of roads could be built by taxing each county for the full cost of the improvement of its roads, and while Michigan, up to this time, has required the counties to contribute a part of the cost of both trunk line and Federal aided roads, the poorest counties have only been asked to contribute 5 percent of such cost as compared with 25 percent in nearly one-half of the richer counties of the state.

The same line of reasoning which says that New England should not be taxed to build roads in Nevada, New Mexico, or any of the western mountain states, applies in a smaller way as between the richer and poorer counties of every state and any law which will prohibit the taxing of the richer counties to aid the poorer counties would at once make impossible any continuous system of state roads.

Interstate Roads

If we admit that a system of interstate and national highways is desirable, and we must admit it, unless we are to say to the motorists of any state, "You shall use only the roads within your borders and have no right to go into another state entirely at its own expense," we have a right to demand that they be built wholly or at least partially at national expense; and here the courts step in and say we must build for the other states. When the man from Boston desires to motor to San Francisco, he may take any through highway, but he will be just as loud in his complaints about the bad roads in Iowa, Wyoming or Nevada as he is about any imperfections he may find in the roads in Massachusetts.

Now let us compare the ability of Nevada and Massachusetts, which have approximately the same road mileage, to construct highway systems that will be entirely satisfactory to the Boston traveler. Federal statistics show that the entire wealth of the State of Nevada is \$541,716,000 and that it has 22,000 miles of public wagon roads to maintain. In other words, the average wealth per mile of road in Nevada is but \$24,600. Thus it is plain that if Nevada were required to improve its entire road mileage at an average cost of \$25,000 a mile, it would take more money or property than the people of that state possess.

Applying the same rule to Massachusetts, we find a valuation of \$12,980,893,000 with a road mileage to maintain of only 20,525 miles. In other words, it has a valuation of something over \$630,000 per road mile. Thus it could improve its roads at an average cost of \$30,000 a mile (about the average cost of paved roads) and still have \$600,000 a road mile to live on, whereas if Nevada undertook to improve its entire road mileage in this manner, its citizens would have to go to the Poor House, and there would be no money left in that state to support the Poor House.

Again referring to the State of Michigan, a plan was worked out and made into a law whereby the counties having a valuation of less than \$50,000 per trunk line mile were only required to pay 5 percent of the cost of building trunk line and Federal aided roads, but counties having a valuation of more than \$500,000 per trunk line mile were required to pay 25 percent of the cost of such roads, while counties ranging in valuation between these extremes paid proportionate percentages.

If this rule were applied to the states, I find that there are eleven states with valuations of less than \$50,000 per road mile, while two of them, viz., New Mexico and Wyoming, have valuations per road mile less than the State of Nevada, which has already been mentioned. In fact, New Mexico has a valuation per road mile of less than \$18,000 and Wyoming a valuation of but slightly over \$21,000 per road mile. On the other hand, the States of Massachusetts, New Jersey and Rhode Island all have valuations of more than \$600,000 per road mile. In fact the State of Rhode Island has a valuation of nearly \$802,000 per road mile. It is therefore unthinkable that states with these low valuations, unaided by the richer states, can ever be expected to improve their public roads even on the trunk lines in a manner that will be satisfactory to the traveling public, much less in a manner that can reasonably be expected of the richest country in the world.

Shall the Rich States Aid the Poorer Ones?

Is it fair and equitable to tax a group of rich states to build roads in the poorer states of the nation? My answer would be that it is just as equitable as it is in Michigan to tax Wayne County to build roads in Roscommon County, which county has but a small fraction of the wealth of Wayne, and it can be said to the credit of Wayne County that it has never dissented to this plan. The people of Wayne travel over the entire state and take just pride in a system of state highways that covers all of the counties of the state, whether rich or poor, sparsely settled or populous.

Tables have been worked out to show that a certain group of states pay nearly all the taxes and that it is not fair to tax them for roads in the poorer states. The same reasoning would lead us to say that the rich counties in any state should not contribute to the cost of roads in the poorer counties of that state: that the people in the cities should not contribute to the cost of building roads in the country and the logical trend, if carried still further, would lead us to say that we shall not tax any rich political subdivision of a state or county for any kind of improvements in the poorer ones, and if carried into other lines of taxation, we might insist that families without children and bachelors should not be taxed to educate the children of their more fortunate but poorer neighbors.

Who Pays the Taxes?

These tables show in detail that a certain group of fifteen states contribute upwards of 88 percent of the internal revenue tax which is much greater than the percentage of Federal aid which they receive in return. To a large extent, this is true, at least on the face of the returns and just what is intended and necessary if we are to have unbroken lines of roads reaching from coast to coast and from Canada to the Gulf.

But while apparently this is all true, it is not true to the full extent that appears on the surface. Michigan happens to pay the largest internal revenue tax per capita of any state in the Union, yet it has always wholeheartedly supported Federal aid in road building. However, we will see what happens in Michigan and that principle governs in the case of other states and on all commodities on which an internal revenue tax is collected. A large part of the Federal tax paid by Michigan is on account of the automobiles we manufacture and sell. Let us see who pays the tax. We make cars and sell most of them to the other 47 states of the Union. There is a 5 percent tax on automobiles. If you buy a car you will at once find out that you pay a 5 percent war tax, so-called. It is paid to the local dealer, who turns it over to the jobber and he in turn to the manufacturer who



passes it on to the government and thereby Michigan gets credit for paying a large internal revenue tax, 47/48ths of which, if collected from the sale of autos, is paid by the other states which get no credit for it in returns to Uncle Sam.

North Carolina manufactures millions of dollars worth of tobacco in various forms and thereby collects a large amount of revenue and turns it over to the government and gets credit for something which the other fellow pays.

In fact it is a general principle of taxation in all forms, that it is passed on as far as possible, to the ultimate consumer who, in a majority of cases, lives in some other state.

We might go further and show that many of the taxes paid by the corporate interests centered in New York and other population centers earn the money on which they are taxed, on account of industries that lie entirely out of the holding state and all the earnings are collected from a business and mostly from people who are residents of other states, which latter states receive no credit for what they contribute to such Federal taxes. For example: The Union Pacific in 1923 paid an income tax in New York of \$4,500,000 and yet this road does not operate east of Omaha and Kansas City—half the length of the continent from New York State. The Southern Pacific paid a tax of \$5,000,000 in New York City and that road does not run any nearer New York than New Orleans. No attempt will be made to cite other and similar instances but they are numerous and when taken into account, New York would actually not be paying any more, if as much, as its just share of Federal taxes, considering its total wealth. It is not a far cry nor illogical to say that a portion of that money rightfully belongs to the states that produce it—in fact much more so than to say that a certain group of states (which for a large part of such tax only act as a collection agency), pay more than their share of the taxes and should be exempted from paying for improvements like roads in other states, especially those in which this tax money is earned.

Interstate Commerce

For some time the motor vehicle has been recognized not only as a pleasure vehicle but also as a commercial vehicle and practically all of the states have passed laws providing for licensing and regulating their use upon the public highways and some have made them common carriers (Act 209, P. A. 1923, Michigan).

An attempt to license and regulate the use of such commercial vehicles on the highways of the states has led to more or less complication and some litigation where their use extends from state to state. The Michigan Utilities Commission, et al, appellants, vs. Coarl W. Duke, doing business as Duke Cartage Company, is the name of a case which was appealed to the United States Supreme Court from the District Court of Eastern Michigan.

The plaintiff was doing an interstate trucking business between the cities of Detroit and Toledo, having three contracts to transport automobile bodies manufactured in Detroit and intended for use by automobile manufacturers in Toledo. This company employed 75 men and operated 47 motor vehicles and trailers on the public highways of Michigan and Ohio, but because this contractor had no other busi-

ness and did not hold himself out as a carrier for the public, the courts held that he was not a common carrier under the terms of the Michigan statute.

The courts have held, however, that in the absence of national legislation convering the subect of the "Use of Interstate Highways" that "A state may for public safety and order in respect to the operation upon its highways of all motor vehicles—those moving in interstate commerce as well as others; that a reasonable, graduated license fee imposed by a state on motor vehicles used in interstate commerce does not constitute a direct burden on interstate commerce, and that a state which, at its own expense, furnishes special facilities for the use of those engaged in intrastate and interstate commerce may exact compensation therefor, and if the charges are reasonable and uniform, they constitute no burden on interstate commerce." Continuing, the court said: "It is well settled that a state has no power to fetter the right to carry on interstate commerce within its borders by the imposition of conditions or regulations which are unnecessary and pass beyond the bounds of what is reasonable and suitable for the proper exercise of its power in the field that belongs to it." Further, the court said: "The commerce clause of the Constitution does not deprive the state of the right to reasonably regulate under their police power the use of their public highways and to that end to require a license for the privilege of such use, and impose a reasonable charge therefor, * * * and that such license tax for use may include a reasonable charge for upkeep. The amount of the privilege tax imposed by a state for use of its highways need not necessarily be limited, even to those engaged in interstate commerce, to the actual cost of regulation but may include a reasonable compensation for use of the highways and a fair provision for anticipated repair and improvement."

In the Michigan case above cited, the courts did hold that it was unlawful to impose a burden on interstate commerce, requiring the carrier to provide insurance or indemnity bonds for the protection of persons or property carried, as that would impose a direct burden on interstate commerce.

Referring to the Federal Highway Act which requires that all highways constructed or reconstructed under the provisions of this act shall be free from tolls at all times, it was ruled that this provision "does not deprive a State of the right in the exercises of its police power to enact reasonable regulations for the use of such highways including the imposition of license fees."

The court also said: "The movement of motor vehicles over highways is attended by constant and serious dangers to the public and is also abnormally destructive to the ways themselves. Their success depends on good roads, the construction and maintenance of which are exceedingly expensive. * * * But that the amount of charge and method of collections are primarily for determination by the state itself and so long as they are reasonable and are fixed according to some uniform, fair and practical standard, they constitute no burden on interstate commerce."

The conclusion of this matter would seem to be that the courts have positively held that motor vehicles transporting goods or persons from state to state over the public highways are actually engaged in inter-



state commerce. Therefore the states can not place undue restrictions on the vehicles thus engaged.

If it were not for such laws, a poor state might hedge itself about with such drastic legal restrictions as to the use of its highways as would prevent the passenger cars and trucks from a richer neighboring state from destroying them.

This being impossible, it would seem only fair and honest to consider the whole country as a road building unit and tax all its resources in a just and equitable manner for at least enough to aid in building a system of interstate highways satisfactory to their users and in keeping with what can reasonably be expected from the richest nation in the world.

Are State's Rights Violated?

The claim is made that the principle of home rule and states' rights are violated. To be sure, if the government is to become a partner with the states in road building it must have a say as to how the Federal money shall be spent. Congress has been careful about that. For many years Michigan was a state-aid and distributed millions of dollars to the counties and townships in the state for roads that were required to be built in accordance with state specifications and required to pass state inspection when completed. No one questioned but that it was a necessary safeguard to the state's funds.

In the case of Federal funds, that is, no doubt,

equally necessary. So far as Michigan is concerned, it has had a part in the laying out of the routes, preparing of the plans and specifications and given its assent to the types of roads to be built, and therefore can well object when the Federal Government insists that the plans and specifications be rigidly followed. We have not lost any of our initiative nor self-respect because we have been partners with the government during the whole transaction. We sometimes differ on engineering points with the engineers of the government and proceed to argue out our differences and expect to do so in the future. So far I think it is a draw game. No doubt other states have had the same experience.

In conclusion I wish to be emphatic in saying that there is no loss of initiative when the State and Federal engineers jointly strive for the best there is in highway practice. Under such a system most of the states have produced a rather large number of trained engineers who are in charge of the work and who, for the most part, take pride in building the best roads they can produce. Neither group feels that it has lost anything by contact with the other and I can not see wherein any state's rights or local home rule principle is violated in this kind of a partnership, which is producing at a rate of between 11,000 and 12,000 miles a year of the best roads of the various types that were ever built on the surface of the globe.—*American Highways*.

The Fifth National Safety Campaign For 1925-1926

Following a plan adopted a few years ago, the Highway Educational Board of Washington, D. C., announces the fifth national safety campaign. The awards are the gifts of the National Automobile Chamber of Commerce, and the campaign has been endorsed by the United States Commissioner of Education. The contest is divided into three parts—essay contest for public schools; elementary school teachers' lessons on highway safety; and the group signing of the Pledge of Carefulness by schools.

Elementary School Essay Contest

National and state awards will be made. The national awards in the essay contest will be: first, a gold watch and a trip to Washington; second and third, gold watches.

Rules of the Essay Contest

Subject: My School's Share in Highway Safety.

Length: Not to exceed 500 words.

Eligible: All pupils of the fifth, sixth, seventh and eighth grades, fourteen years old and under.

Closing Date: Not later than February 24, 1926.

Drawings: Each essay must be illustrated by an original drawing, appropriate photograph, or clipping from a magazine or newspaper.

Preparation: 1. Essays must be written on one side of the paper only. They may be typewritten or prepared with pen and ink. 2. Each essay must bear the name, school and home address of the pupil in the upper left-hand corner of the first page.

Disposition: Essays should be handed to the school principal or designated teacher on or before February 24, 1926.

Elementary Teachers' Lesson Contest

Three awards will be made for the three best lessons submitted by elementary teachers in the national contest: First, five hundred dollars and a trip to Washington with all expenses paid; Second, three hundred dollars; Third, two hundred dollars.

Rules of the Lesson Contest

Subject: Lessons for Children on Highway Safety.

Length: Not less than 1,000 nor more than 3,000 words.

Eligible: All elementary school teachers in the eighth and lower grades.

Closing Date: Not later than February 24, 1926.

Preparation: 1. Lessons must be written on one side of the paper only. 2. Each manuscript must bear the name, school and home address of the writer in the upper left-hand corner of the first page. Lessons may take the form which the teacher considers best presents the subject such as a lecture, recitation, game or drama.

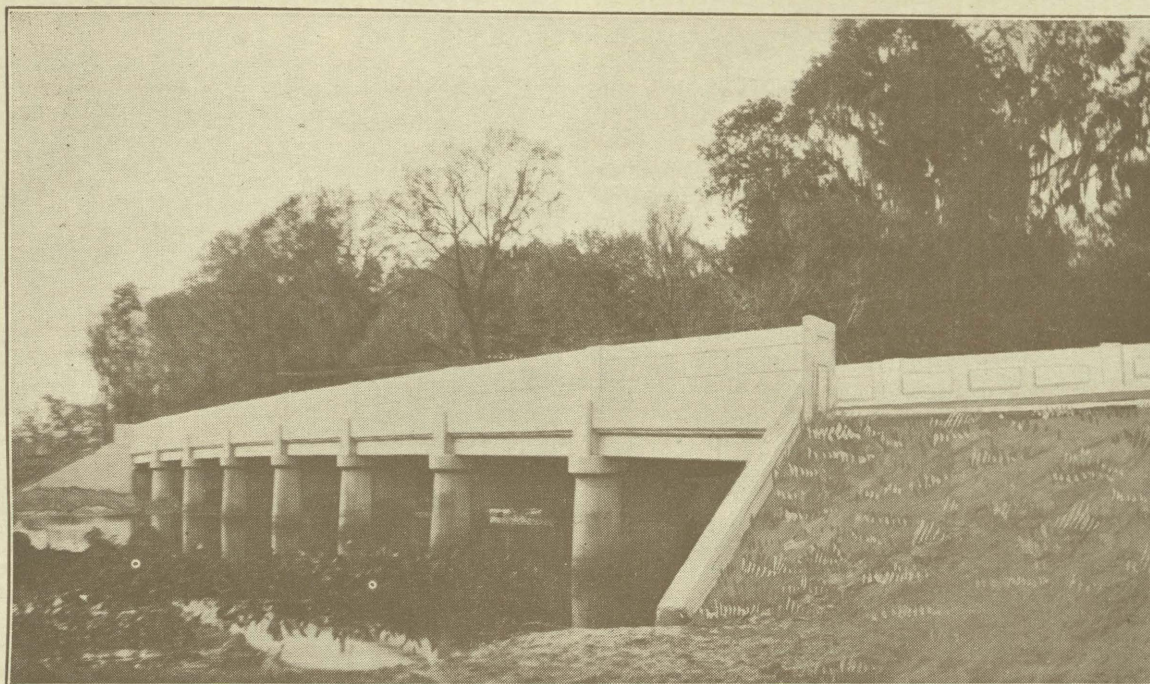
Disposition: Lessons should be handed to the school principal or designated teacher on or before February 24, 1926.

Rules for Grading Essays and Lessons

1. Both essays and lessons must be handed to the school principal or designated teacher on or before February 24, 1926.

2. The best essay and the best lesson from each school should be forwarded the city or county school superintendent by the principal or designated teacher under postmark not later than March 17,





1926. The superintendant will name suitable committees to review the papers.
3. The best essay and the best lesson from a county territory outside an incorporated city or town should be forwarded the state superintendent of schools, or state headquarters, under postmark not later than April 14, 1926.
 4. The best essay and the best lesson from each incorporated city or town of 50,000 population, or under, should be forwarded the state superintendent of schools, or state headquarters, under postmark not later than April 14, 1926.
 5. From each city of 50,000 population, or more, one essay and one lesson for each 50,000 population or fraction thereof, should be forwarded the state superintendent, or state headquarters, under postmark not later than April 14, 1926.
 6. The state committee will choose the best essay and the best lesson from each state and territory, which should be sent to the Highway Education Board, Willard Building, Washington, D. C., at the earliest convenience.
 7. The term "county" may be held to apply to corresponding units of school government. This would include "parish" in Louisiana, the "division" in Virginia, and the "town" or "union" in New England.
 8. Upon receipt of the best essay and the best lesson from each state and territory, duly certified by the state committee, the Highway Education Board will refer them to competent judges who will make the national awards. National awards will be made and announced as soon as practicable thereafter.
 9. Neither city, county nor state committee can be held responsible for return to the writer of essays or lessons. Privilege is reserved to publish any manuscripts submitted.

Certificates of Merit for Schools

For especially meritorious records in safety education during the present campaign, Certificates of Merit again are offered those schools and classrooms that comply with the conditions below.

Even more surely than the essay and lesson contests, the endeavor to earn one of these certificates draws the entire school into the campaign for safety instruction. Those pupils and teachers who are not inclined, or not required, to participate in the annual essay and lesson contests, will almost without exception respond to the urge of school loyalty and school pride to win a place for their institution upon the national honor roll of those schools awarded a Certificate of Merit.

The document is engraved on parchment paper, size thirteen by seventeen inches, and is suitable for framing. It is to be signed by the United States Commissioner of Education, as Chairman of the Highway Education Board, and will bear the seal of this organization. Space will be provided this year for the signature of the State Superintendent of Public Instruction, the City Superintendent of Schools, or appropriate school official.

In addition there will be given the press of each State, with appropriate comment, a list of those schools which have earned one of the certificates.

Certificates will be given those schools which attain 300 out of a possible 450 points. A statement by the principal or a teacher to the board that the points were earned will be accepted.

If an entire school does not seek the certificate, a particular classroom registering the required number of points may seek the honor, but the document will be prepared for the classroom instead of the school, and will be smaller in size. With regard to participation in the essay and lesson contests, and signing of pledges, no points will be given for less than twenty

per cent participation. Points may be computed as follows:

For twenty per cent of pupils who write essays, twenty points. One point will be given for each additional per cent of pupils participating, up to 100 points. For instance, if, in a student body of 150, thirty pupils write essays, twenty points may be registered. If sixty-five pupils out of 150 write essays, forty-four points may be counted. A fraction of a point may be counted as a whole point.

For twenty per cent of teachers writing lessons, twenty points, and one point for each additional per cent up to 100 points, computed as above for pupils.

Twenty points for twenty per cent of pupils signing the Pledge of Carefulness, and one point for each additional per cent, computed in the same manner.

Fifty points for the organization of an active safety patrol. If a patrol already is in existence the points may be counted.

One hundred points if no traffic accident occurs among pupils or teachers from December 1, 1925, to February 24, 1926, inclusive.

Pledge of Carefulness

Realizing my responsibility as an American citizen to secure the safety of others by careful conduct on the streets and highways, and,

Realizing that the accident and death toll of my Nation, State and city can best be reduced by thoughtfulness and carefulness,

I pledge myself to be considerate of the rights of others while on the streets and highways; to learn and observe traffic rules and regulations to the best of my ability; to cooperate in a campaign of carefulness, either as a pedestrian or as a driver of a vehicle, and I will, by precept and example, endeavor to assist others in making streets and highways safe.

The total number of those signing this pledge will be reported to the Highway Education Board, Willard Building, Washington, D. C., under postmark not later than April 14, 1926.

The pledge should be typed, printed, or written and each person in school given opportunity to sign.

FIRST TRAFFIC ORDINANCE AGAINST SPEEDERS

Traffic ordinances against the speed demon had their beginning in 1678 in Rhode Island. This traffic ordinance was embodied in a resolution of the assembly of the colony of Rhode Island and was the result of the running down of a child in the streets of the town of Newport. The resolution of the assembly as it appears in a recent article in the *American City* reads as follows:

"Whereas, there was very lately in the town of Newport on Rhode Island very great hurte done to a small childe by reason of exceeding fast and hard ridinge of horses in said town, this Assembly takeing the matter into their serious consideration and being desirous for the future to prevent the like mischief, doe ordain, et cetera—that from and after the publication hereof, if any person or persons shall presume to ride on either horse, mare or gelding, a gallup or to run speed—in the streets of Newport—said person



shall for his offense pay—unto the Treasurer of said towne 5 shillings in money on demand; 2 shillings of which shall be paid to any person or persons that shall give information thereof and the other 3 shillings to remain for the use of the said towne."

And the Town Sargeant was immediately empowered by a special act to "take by distraint" the said 5 shillings if they were not immediately forthcoming.

COOLIDGE ECONOMY

This story is related by a person connected with the White House:

One Sunday after the president had returned from church, where he had gone alone, Mrs. Coolidge inquired:

"Was the sermon good?"

"Yes," he answered.

"What was it about?"

"Sin."

"What did the minister say?"

"He was against it."

HERE'S SOME GOSSIP

It takes two to make gossip despicable—one to talk and one to listen.—*Washington Post*.

Are Toll Bridges and Toll Ferries Justified on a State Highway System

By W. E. Atkinson, Chairman Highway Commission, Louisiana

I accept with pleasure the assignment of the Program Committee of the American Association of the State Highway Officials to present a paper on the question, "Are Toll Bridges and Toll Ferries Justified on a State Highway System?"

Primarily, all bridges and all ferries and all roads are toll bridges and toll ferries and toll roads. We often confuse terms and twist the meaning of words. We refer to free bridges and free ferries and free roads, when as a matter of fact there are no such things, any taxpayer who consults his receipts from the collecting officials could testify to this matter in unmistakable language. Bridges and roads are built and ferries are maintained at the expense of the public. Some are built and maintained by taxation in some form or other, wherein all the people are forced to contribute to the building and maintenance. Others are built and maintained by forced contributions from those who actually use the bridges, the ferries, or the roads. The former are called public and free, though they are in no sense free; the latter are called toll, in that a toll charge is collected from each individual that uses them.

Of course, there can be no question but what bridges and ferries and roads built and maintained by the public, for which no special charge is made for their use, is by far the better system, and wherever the public fisc permits there should be no question as to the system adopted.

When, however, the question presents itself to the governing authorities baldly: which is better, no road, no bridge, no ferry; or a toll road, a toll bridge, a toll ferry, then again there can be no question. It is better to have a toll road, a toll bridge, a toll ferry than none at all.

The tremendous and remarkable road building program of the United States in the past quarter of a century has been so startling in its magnitude, that it almost staggers the imagination. This tremendous development has necessarily carried with it tremendous expenditures of public money and a corresponding tremendous burden of taxation. It has been in no wise possible to meet the legitimate demand for building of the necessary and essential roads. This is true in all the States, even the wealthiest, and becomes more apparent as we move down the scale to the less affluent commonwealths.

It has been found, therefore, necessary in many States to supplement the road program by letting to private capital the privilege or franchise to build toll bridges over streams, for which tolls are charged to the actual users of the structure.

My information on this subject is that some 30 States now have such toll bridges, amongst them the wealthiest States as well as the poorest.

In coming to any conclusion in this matter, we are all more or less governed by our immediate surroundings. I know the situation and necessities in my own State. I occupied the position of Highway Engineer

from 1912 to 1919. From 1916 to 1924 I was in the engineering and contracting business building roads, and since 1924 I have been chairman of the Louisiana Highway Commission.

Road construction in Louisiana was financed previous to the Constitution of 1921 by local taxation in the various counties (parishes), which taxation was funded into bonds and these moneys were supplemented by Federal aid after 1916. The State Highway movement in Louisiana was started by the passage of Act 49 of 1910 and an amount of money was provided by the State, which amount barely exceeded the overhead of the department.

In 1921 there was written in the Constitution provisions relative to a State Highway System, which provisions were carried into effect by various acts of the Extraordinary Session of the same year.

In these provisions all automobile licenses collected in the State are covered in the General Highway Fund, and in addition thereto a tax of 2 cents per gallon on gasoline. It is estimated that during the current year there will be collected from the automobile licenses some \$3,350,000 and from the gasoline tax some \$2,250,000.

The counties (parishes) have been liberal in voting bonds for the construction of their essential roads, and we receive from the Federal Government something under \$1,000,000 for Federal aid projects.

Under our State law there has been designated some 7,000 miles of State highways, of which amount some 4,000 have been hard-surfaced principally with gravel, and some 3,000 are yet to be constructed.

The question of bridges in Louisiana is extremely important. We have the greatest rivers in the continent traversing our State, and some 5,000 miles of navigable rivers that twist and turn and cross our roads again and again that must be bridged before our system is completed. In addition to these rivers, we have passes and lakes practically surrounding our great City of New Orleans, which should be bridged.

Any bridge project that calls for the expenditure of millions of dollars in one single structure, as confronts us, is a serious matter. The localizing of this amount of money in any small stretch of territory, with thousands of miles of completed roads to maintain and thousands of miles waiting to be built—every mile of which is necessary—would be, in my opinion, bad public policy. Therefore under these circumstances, with the tremendous demand that was and is being made upon the highway fisc and the tremendous costs facing us in bridge construction, our legislature passed Act 141 of 1924, which authorizes and directs our Highway Department to contract with private capital to build bridges and charge a toll for the use thereof, all under the direction and supervision of the Highway Commission. All such construction, however, looks to the eventual ownership of such bridges by the public; and such toll bridges to be constructed only as a temporary relief from the pressing road transportation problems that confront us.

I am, of course, in favor of free roads and bridges, built, owned, maintained, and operated by the public; but I am also in thorough accord with the spirit of our legislation that provides that when the Highway Commission of Louisiana finds itself financially unable to build and maintain these great expensive structures that then, and in that event, they are authorized and permitted to contract with private capital to construct and maintain toll bridges under restriction and supervision of the governing authorities.

Or to state the proposition tersely, Louisiana legislation provides, and I am in favor of it, for the construction by private capital of toll bridges rather than to have no bridges at all. It follows that I am in favor of toll ferries rather than no ferry at all. There is no question locally with us as to toll roads.

The reasons that actuated our legislature in the passage of the act permitting toll bridges is seen at a glance, when the needs and the necessities of the building of roads is compared with the revenues at our disposal. Louisiana has a splendid road system at this time. We have practically already connected every county (parish) seat with every other county seat, and every commercial center of any size with every other commercial center; and we have done this without the issuing of any state bonds. Louisiana does not owe a dollar in bonds for road purposes directly. Various subdivisions of the State, yes; practically all of these do, but the State itself is free of debt for road purposes. Our people found it a part of wisdom to slowly and surely construct its roads without incurring the tremendous expense caused by interest-bearing bonds.

Mr. McDonald, than whom there is no higher authority on this and other questions pertaining to public roads, the head of the Good Roads Bureau of the Agricultural Department, testified. Among other things he said: "I wish to say that we are not opposed to toll bridges built and operated by private companies, assuming that they can not be financed by public funds." Further on in his testimony Mr. McDonald says, in speaking of his stand in this matter: "because we are not opposed to the building of toll bridges where that is the only way to finance them."

His testimony before the committee as reported in the Congressional Record is very illuminating and very exhaustive. and I would recommend to those who are interested in this question the reading of his entire testimony.

Therefore, answering the question that has been assigned to me for discussion; "Are Toll Bridges and Toll Ferries Justified on a State Highway System?" I am constrained to answer that they are justified under the conditions I have above described. It is better to have a toll bridge, serving the public, than to have the public deprived of this great convenience. It is better to have a toll ferry, serving the public in a somewhat more restricted form, than to have our rivers and lakes impassable.—American Highways.

PAYING FOR DAMAGE TO GUARD RAILS

During the past two weeks the Department has collected from two drivers the amount required to replace guard rails damaged by them. In each case it was apparent that the damage was caused by the

negligence of the drivers. Both cases happened on the Carson City-Reno road. In future, the Department will follow the same course throughout the State. Guard rails are designed and intended to protect life and limb in case of unavoidable accidents. But where the rails are damaged as a result of carelessness, recklessness, or drunkenness, the person doing the damage will be held to account.

THE HIGHWAY EXPOSITION POSTPONED

The Nevada Transcontinental Highways Exposition which was scheduled to be opened next year, has been postponed until 1927. It has been apparent for some time that the transstate roads, the completion of which was to be the event celebrated, could not be completed in 1926. The postponement in no sense means that efforts to make the 1927 exposition a big event will be lessened. On the contrary, everything will be put in the crucible, and better plans, closer cooperation, and a real determination on the part of all sections to make a really good show will be the factors that will remain. All the dross will be skimmed off.

It has been the history of the exposition that there has been a period of recession after the first flush of enthusiasm is over. Plans have been revised, in some cases new organizations were formed to control, the good sifted from the impractical, and a broader and better program worked out. The Reno exposition is merely a repetition of history. The 1927 exposition will surpass in extent and interest the fondest hopes of the originators of the idea, and the entire State, and the entire West for that matter will be a unit in making it a great success, worthy of attracting thousands from near and far, and truly representative of the New Nevada.

A SNEAKING DRAFT

Jack—"You've got a bad cold, Pete."

Pete—"Yeah."

Jack—"How'd you get it?"

Pete—"I slept in a field last night and some one left the gate open!"—*Boys Life*.

A story is told of a teacher who recited to her pupils "The Landing of the Pilgrims," after which she requested each pupil to try and draw from his or her imagination a picture of Plymouth Rock. Most of them went to work at once, but one little fellow hesitated, and at length raised his hand.

"Well, Willie, what is it?" asked the teacher.

"Please ma'am, do you want us to draw a hen or a rooster?"

NONE OF THE GANG

"Have you a Charles Dickens in your home?" asked the polite book agent.

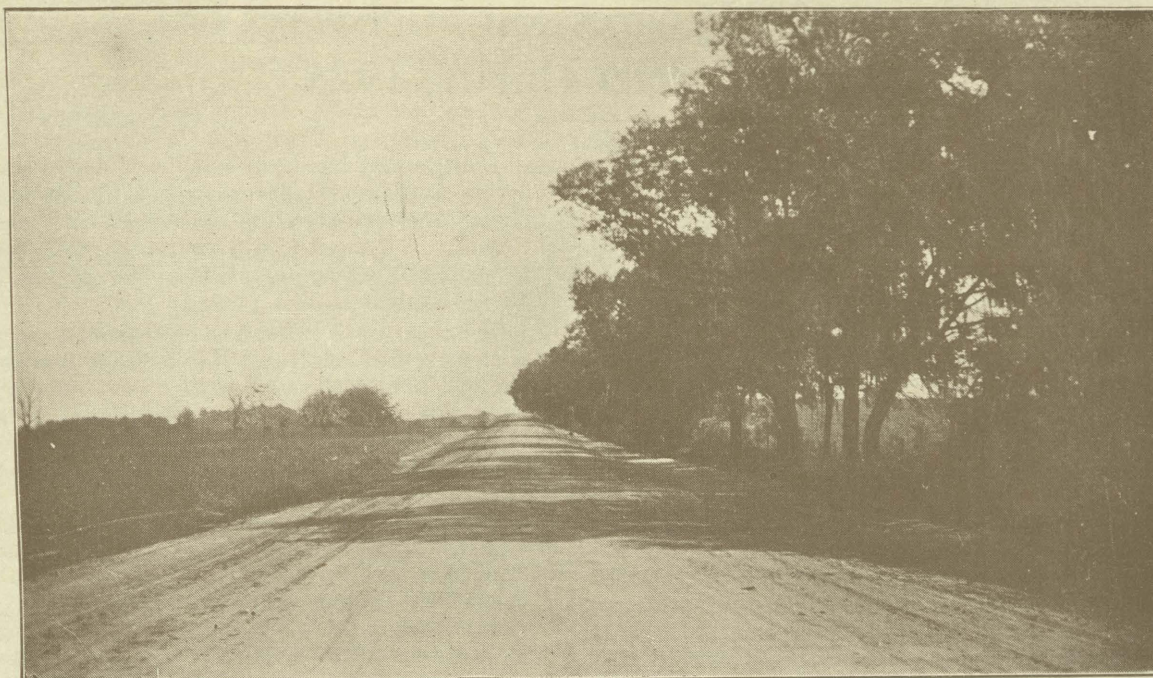
"No!" she snapt.

"Or a Robert Louis Stevenson?"

"No!"

"Or a Gene Field?"

"No; we ain't, and, what's more, we don't run a boarding-house here, either. If you're looking for them fellows, you might try the house across the street."—Credited to "Exchange" by the *Christian Evangelist*.



THE QUARTERLY MEETING

(Continued from Page 4)

Coast, on which Mr. Green resides to the East Coast, where Mr. Schilling lives, and these gentlemen, with Dr. Hathaway, who has made personal inspection of both ends, will have adequate information upon which to base the location.

3. Creation of a similar committee consisting of Mr. Green and the Chairman to definitely locate Road No. 5 in Sarasota County between Sarasota and the Myakka River. The reasons for this action are similar to those advanced in the paragraph just above and will facilitate the matter of the definite location of this important stretch of road.

4. Adoption of the tentative budget of work for the year 1926, and designation of Tampa as the place, and March 10th as the time when the Department will hold the meeting required by law for hearing complaints and suggestions from the public as to its proposed budget. The meeting will be in the nature of an open hearing. This budget will meantime be published in newspapers in Pensacola, Jacksonville, Orlando, Tampa and Miami, and final adoption of the budget will follow the open hearing.

THE NEW DIVISION

The increase of the Department's work in the lower East Coast section has become so great that it has been found necessary to create an additional or 6th engineering division to comprise the Counties of Palm Beach, Broward, Dade and Monroe. The Division Engineer in charge is R. C. Fergus, who maintains his headquarters at Fort Lauderdale. The territory named was formerly included in the 3rd division and some idea of the magnitude of the work assigned the engineer in this division may be gained

from mention of the fact that this territory on the north extends into Volusia County.

With work under way on the Tamiami Trail west of Miami and the construction of project 41, that section of Road No. 4 between the Broward County line and Miami, as well as the work on Road 4 and the Jupiter Bridge in Palm Beach County, it is felt that a new division was an absolute necessity.

LAW BROKEN FOR TWENTY-FIVE YEARS

Motorists have been breaking a law of Iowa for the last twenty-five years until the Legislature has had to repeal it. This was the law: "The traveling motorist is ordered to telephone ahead to the next town of his coming, so that owners of nervous horses may be warned in advance."—*The Municipal World*.

A MISPLACED LETTER

Diner—"Waiter, there's a button in my soup."
Waiter (Ex-printer)—"Typographical error, sir; it should be 'mutton.'"—*The Progressive Grocer*.

CALL THE DOCTOR

Cement patient held invalid.—Headline in the *Scanton (Pa.) Times*.

BISECTED

Cuban Concerns to employ half women.—Headline in the *San Francisco Bulletin*.

NO RAPID TRANSIT

A few days after a farmer had placed his two children in a school a book agent called on him and said, "Now that your children go to school you ought to buy them an encyclopedia."

"Buy them an encyclopedia? Hanged if I do," was his reply. "Let them walk, like I did."—*Farm Life*.

Wonderful Progress on Highways of Fifth District During 1925

[EDITOR'S NOTE.—We are presenting the following excellent article in order to give some idea of the manner in which our work is regarded by the public outside our own organization. This article was prepared by Harry Brown, editor of the *Lakeland Star-Telegram* and appeared in the columns of that influential newspaper, to which we extend grateful acknowledgment for permission covering its use.]

The year 1925 has seen wonderful progress made in the construction of State highways in the Fifth District of which A. W. Kinney is division engineer, with headquarters in Lakeland. So marked has been that progress that it is now possible to drive over a continuous surfaced highway on Road No. 5 from Brooksville, capital of Hernando County, to Fort Myers, capital of Lee County, the northern section of the famous Tamiami Trail. Nor is this the only achievement. Fort Myers is now reached over State Road No. 2 from Lakeland, all other points in Polk County by way of Bartow, Fort Meade, Wauchula and Arcadia. And had it not been for the freight embargo which has shut off practically all shipments of rock for highway construction purposes, the unfinished section of State Road No. 8 between Lake Annie on the lower end of the Ridge, and the Kissimmee River, would have been hard surfaced by the middle of January.

Engineer Kinney believes that if rock supplies are to be had in 1926, the Fifth District will be well along toward completion by the end of next year.

State Road No. 5

Up to the first of December State Road No. 5, to all intents and purposes had its northern terminus at Brooksville. Eventually it will extend northward until it connects with the network of roads either built or to be built by the counties bordering on the Upper Gulf Coast, affording through connection with Tallahassee and West Florida points. To-day a start has been made from Brooksville northward, a contract having been let for grade, bridges and culverts in the 15 miles to Florida City on the way to Inverness. The new year will see steady progress on the Gulf Coast.

From Brooksville to Tampa and from Tampa to the Six Mile Creek, Road No. 5 has been completed. From Six-Mile Creek south about six or seven miles the rock base has been completed on 12 miles of narrow Hillsborough County road that is being rebuilt. The remaining six miles has so far not been touched, due to the shutting off of rock supplies. The first mile to the Hopewell road leading to Plant City will be rocked and opened to traffic again in another month. While this work is in progress Hillsborough County's bay shore road affords excellent traveling to Palmetto and Bradenton. The State Road Department has completed the new road toward Sarasota as far as Whitfield Estates, six miles south of the capital of Manatee County. From Whitfield Estates on into Sarasota, a distance of four and a half

miles, the grading has been completed and a contract let for a roadway 30-feet wide but the department is unable to secure rock for the base so in the meantime traffic is using the old route through Manatee to Sarasota so as to avoid the bad detour below Whitfield Estates.

South of Sarasota work has been started on grading a new route for Road No. 5 from Sarasota to Venice. Of course the old county road affords good traveling through Englewood where the route leaves the coast of the Gulf of Mexico, swinging northeastward to the Miaaka River which is at the head of Charlotte Harbor. A new survey is being made direct from Venice to the Miaaka for a shorter route which will cut off several miles on the trip to Punta Gorda and Fort Myers. The new State road is in excellent shape from the Miaaka through to Charlotte Harbor bridge and Punta Gorda. Between Punta Gorda and Fort Myers the marl road is in fair condition but will soon be in need of rebuilding. This last is a Lee County project and was only intended to serve the purpose of an emergency highway to make Fort Myers accessible, which it does by means of a substantial bridge across the Caloosahatchee River into the city.

State Road No. 2

State Road No. 2 officially begins or ends at Fort Myers in South Florida or at the Georgia line about fifteen miles northwest of Jasper—these two points are the termini. At Leesburg it is divided into two branches, one swinging southeastward through Eustis and Mount Dora to Plymouth, Apopka and Orlando, where junction is made with State Road No. 3, extending from Jacksonville south along the west bank of the St. Johns River to Palatka, thence across that stream through East Palatka and San Mateo to Satsuma, Pomona, Crescent City, Seville and on through Volusia County to DeLand, to Sanford and Orlando. The other branch of No. 2 continues in a direct southerly route through Lake County from Leesburg to Groveland and thence to the Polk County line, continuing to Polk City and on to Lakeland. Passing through Lakeland it continues to Bartow where junction is made with the Orlando branch which has swung back in a southwesterly direction through Kissimmee, Loughman, Davenport, Haines City, Lucerne Park, Winter Haven and Eagle Lake to Bartow. From Bartow southward to Fort Myers No. 2 passes through Fort Meade, Bowling Green, Wauchula, Zolfo and Arcadia, but does not go on direct to Punta Gorda, swinging southeasterly through Carlstrom Field and then following almost a direct route south to the Caloosahatchee River which is crossed at Olga by a steel bridge. The south bank of the Caloosahatchee is followed into Fort Myers.

Retracing this route northward from Fort Myers, No. 2 is in good shape to the Charlotte County line. From this line to Carlstrom Field is a fair marl highway. From Carlstrom Field through Arcadia to Gardiner the highway is in first-class condition.

The eight miles north of Gardiner to Zolfo, an old road, is in bad shape, there being four miles of Bartow clay which is very bad in wet weather and four miles of sand-clay, also affording trouble when the weather is bad. To overcome this condition, a new route has been surveyed for State Road No. 2 for the fourteen miles between Brownsville and Zolfo and a contract has been awarded for the grading and drainage which contract is now in process of fulfillment. One of the items included in this project is a substantial concrete bridge which will span Big Charlie Creek.

From Zolfo through Hardee and Polk counties to Bartow, where it divides, No. 2 is in splendid condition which may also be said of the eastern branch northeast through Polk and Osceola counties to Orange County. From Kissimmee to Orlando and then back northwestward to Plymouth at the Lake-Orange County line, the old road has been repaired but the State Road Department is already surveying a new route between Kissimmee and Plymouth which project will probably be started during 1926 and completed during 1927. From Plymouth to Mount Dora and on to Eustis and Leesburg, this route is in excellent shape.

The western section of No. 2 is not yet a through route between Bartow and Leesburg by way of Lakeland and Polk City. Polk is about to build a stretch of six miles, under State supervision and later to be taken over by the State, from the end of the present paving at Fxotown, about twelve miles northeast of Lakeland to Polk City where junction will be made with the existing through route between Auburndale and the Lake County line. That portion of the route from Polk City to Leesburg has, with the route from Lakeland to Polk City been designated by the Florida Legislature as a branch of No. 2 and this is to be constructed by the State Road Department as soon as the program can be reached. The western branch from Leesburg to Bartow will be more than 20 miles shorter than the eastern branch through Eustis and Orlando. Those familiar with the situation believe that eventually the State Road Department will continue the designation of State Road No. 3 on south from Orlando over the present road through Haines City and Lakeland to Tampa, this being a continuous highway and that when the western branch of No. 2 is completed between Leesburg and Lakeland by way of Polk City, this route will be designated as State Road No. 2 since it will be a direct route down the central portion of the State.

The Melbourne Route

So heavy has been the traffic over the Melbourne route between Kissimmee and Melbourne, the latter town being on the east coast, that the old Osceola County road is badly in need of repair and will some day have to be rebuilt. In fact Osceola County is now considering a bond issue out of which the county commissioners expect to turn over \$275,000 to the State Road Department for the rebuilding of the entire section between Kissimmee and Deer Park. Engineer Kinney's district ends at the Osceola-Brevard County line but the highway, No. 24, is now open and in splendid condition all the way through to the coast. This last link

replaces the almost world-famous automobile railway that was used to haul automobiles and other motor vehicles across the headwaters of the St. Johns River, a distance of approximately sixteen miles. The new section to be built between Kissimmee and Deer Park will be on an entirely different location so as not to interfere with traffic and at the same time shorten the distance by the elimination of certain crooks and turns.

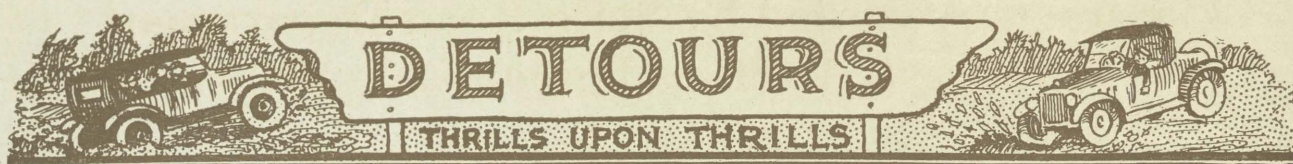
State Road No. 8

State Road No. 8, now having its northern terminus at Haines City, will in all probability some day be extended through to Polk City, possibly taking over the new road between Haines City and Polk City recently completed as a special road and bridge district enterprise. At Polk City, it would meet State Road No. 2 as well as the direct north and south county road to Auburndale. From Haines City south to Frostproof, State Road No. 8, known as the Scenic Highway because of its high hills skirting innumerable lakes and many miles of citrus groves, has new rock shoulders put down and oil was to have been applied as a protection to the berm but the railroads have been unable to deliver shipments on the way since last October. During the early part of the year the new section between Frostproof and Avon Park was thrown open to traffic, affording one of the best demonstrations of highway construction in Florida. From Avon Park south to Lake Annie where State Road No. 8 turns eastward from the Ridge and for six miles of the twenty-four between the Ridge and the Harding Memorial bridge, spanning the Kissimmee River, the highway is all paved in good condition. From the end of the present rock paving to a point six miles eastward toward the river, there is nothing but a sand grade which makes trouble for motorists during wet weather. Work on this gap has been seriously delayed by the embargo placed by the railroads on rock. The expectation of the road department was that this stretch would have been finished so far as the application of the base rock is concerned, by the middle of January. Under present circumstances it is doubtful if the route will be completed much before the rainy season sets in next summer unless the embargo is lifted and rock shipments can be made. The remaining twelve miles to the Kissimmee River has been rocked and affords pleasant traveling. State road forces are at work on the uncompleted section and making such progress as is possible, placing all scattered and irregular shipments of road material as soon as received. While Engineer Kinney's district ends at the river, which is the boundary between Highlands and Okeechobee counties, the cross-State route continues eastward to Okeechobee City where the Connors Highway begins, extending southwestward into West Palm Beach, while State Road No. 8 swings northeastward into Fort Pierce.

New Route Being Opened

The State is opening a new and short route across the peninsula that will be a part of State Road No. 8. This new route has been designated as No. 18,

(Continued on Page 23)



THAT'S THEIR BUSINESS

A new heavyweight boxer is said to be very handsome. His opponents however, will doubtless do their best to correct this impression.—*Passing Show (London)*.

SAFETY FIRST

Rafter—"I'm becoming so near sighted that I bump into people when I walk along the street."

Shafter—"Goodness, man! That's dangerous. Why don't you buy a car and drive it?"—*Life*.

THE TRUTHFUL CAMERA

Another reason why we hate to have a photograph taken is because it makes us look like we were having a photograph taken.—*Dallas Morning News*.

About the only way for a king to get on the first page now is to be dead four thousand years.—*Publishers Syndicate*.

The "survival of the fittest," on the streets, seems to mean the survival of flittest.—*Boston Transcript*.

Henry Ford seems to be dividing his time among flivvers, flyers and fiddlers.—*Indianapolis Star*.

ALICE IN WONDERLAND

Charles Chaplin and Michael Arlen lunched with Alice Terry in a black hat.—*From a personal item in a Los Angeles paper*.

Ladies who went in bathing used to dress like Mother Hubbard. Now they dress more like Mother Hubbard's cupboard.—*Tampa Tribune*.

If George Washington University scientists prove their theory that sleep is a form of intoxication, it will be a great boost for the circulation of the *Congressional Record*.—*The New Yorker*.

If dancing is the poetry of motion, then modern steps are the *vers libre*.—*Wall Street Journal*.

A shingle, a cigaret and knickers make a lot of difference, but they don't fool a mouse.—*New Haven Register*.

There can't be a revolution in America. Not enough people are mad about the same thing.—*Birmingham News*.

This is a progressive age, and every year the automobile that was absolutely perfect the preceding year has been greatly improved.—*Toledo Blade*.

LIGHT FINGERED

Kind Old Lady: And what are you going to do when you grow up, my little man?

Urchin: Foller in me father's finger prints.

A young lawyer, pleading his first case, had been retained by a farmer to prosecute a claim against a railroad for killing twenty-four hogs. He wanted to impress the jury with the magnitude of the injury.

"Twenty-four hogs, gentlemen. Twenty-four; twice the number there are in the jury box."—*De Laval monthly*.—*Akron Motorist*.

Mr. Bragga—I suppose you know I'm singing in the church choir now?

Patient Friend—No, I didn't.

Mr. Bragga—But surely your brother Tom told you I had joined the choir?

Patient Friend—Oh, yes, he told me that.—*Peabody Star*.

A bird in the hand is bad table manners.—*Wall Street Journal*.

"Beating a train to the crossing is like trying to hug an old maid—there isn't enough to gain to pay for the risk."—*All Florida Motorist*.

Net incomes of railroads in 1925 are greater than in any other year in their history. That is how truck and bus competition is killing the railroads.—*Louisville Times*.

"Man, ef Ah did' have no mo' brains dan what yo' got, Ah'd—"

"Hesh up, big boy—Ef yo' brains was dinamite, an' dey doubled evey second fo' a hunnerd yeahs an' den 'sploded, dey wouldn' blow yo' hat off on a windy day."—*American Legion Weekly*.

A SINGULAR ERROR

"Her niece is rather good looking eh?"

"Don't say 'knees is', say 'knees are'."—*Badger Highways*.

HENRY'S ALIBI

Teacher (to boy sitting idly in school during writing time)—"Henry, why are you not writing?"

Henry—"I ain't got no pen."

Teacher—"Where's your grammar?"

Henry—"She's dead."—*Dry Goods Economist*.

Contracts Awarded by State Road Department January 1, 1926 — January 22, 1926

Contractors	Project	County	Roads Length Miles	Bridges Length Feet	Contract Plus 10%	Type
Noonan-Lawrence	51	Escambia	6.28	....	206,575.89	Concrete
J. S. Walton & Co.....	648-B	Hardee .....	....	615	83,228.09	Bridges
Chas. F. Wilmore.....	641-A	Palm Beach.....	11.36	....	86,081.38	Grade
Total.....			17.64	615	\$375,885.36	

THE DIVISION ENGINEERS CONFERENCE

A conference which it is believed will be most fruitful in its results was held at the Department's offices in Tallahassee, Monday and Tuesday, January 25th and 26th, when the Division Engineers of the Department met in conference with the Chairman, State Highway Engineer, Assistant State Highway Engineer, Testing Engineer, Office Engineer, Bridge Engineer, and Superintendent of Equipment. The conference was called by Chairman Hathaway and had for its object the tightening up of the organization and the speeding up of the work of the Department along all lines. The meeting was made the more valuable because of the presence of Mr. R. E. Toms, District Engineer for the Federal Bureau of Public Roads, with headquarters at Montgomery, and Mr. H. J. Morrison, Federal Highway Engineer, in charge of the Bureau's Florida program, with headquarters at Gainesville. These gentlemen were invited by the chairman to participate in the discussions and to give the group the benefit of any comments and suggestions they might have to make.

A full and free discussion was had of all the problems confronting the men in the field, and many important decisions were arrived at and agreed upon. Among other things, it was pointed out that the work of division engineers has now become so great that it is advisable that project engineers in charge of maintenance be named in each division to have and exercise active and close touch and supervision over the road maintenance work in each division.

The results of the conference are gratifying and already its influence is being perceived in the entire work of the Department.

Those in attendance were: F. A. Hathaway, Chairman; J. L. Cresap, State Highway Engineer; L. K. Cannon, Assistant State Highway Engineer; George L. Derrick, Bridge Engineer; F. W. Berry, Jr., Office Engineer; R. L. Bannerman, Division Engineer, 1st Division; J. H. Dowling, Division Engineer, 2nd Division; R. J. Cassie, Division Engineer, 3rd Division; L. B. Thrasher, Division Engineer, 4th Division; A. W. Kinney, Division Engineer, 5th Division; R. C. Fergus, Division Engineer, 6th Division; Messrs. Toms and Morrison, the Federal Highway officials above referred to, and B. A. Meginniss, Attorney for the Department.

WONDERFUL PROGRESS ON HIGHWAYS OF FIFTH DISTRICT DURING 1925

(Continued from Page 21)

beginning at Lake Annie and running westward twenty-five miles to the abandoned Government aviation plant, Dorr Field, a few miles east of Arcadia. Of the twenty-five miles, a stretch of ten miles has already been completed as to grading and a contract let for the placing of the rock base. Grading is in progress on the remaining fifteen miles to Dorr Field. No. 18 continues on to and through Arcadia, extending westward to the Manatee County line. From this line on into Bradenton there is a gap of only five miles and this is being closed rapidly so that before the end of 1926 there will be a direct, short through route across the State between Bradenton on the Gulf of Mexico and Fort Pierce and West Palm Beach on the Atlantic Ocean.

Nearing the Goal

District Engineer Kinney, whose work has been generally commended by all interested in substantial and permanent highway construction, believes that the end of 1926 will see the most of the important road projects in the Fifth District completed. Through routes will have been established to Fort Myers and below that city on the Gulf of Mexico. The Connors Highway route to the East Coast will be open while county enterprise will have been responsible for a new and direct route between Lakeland and Dade City and the completion of State Road No. 2 into Polk County. These projects will make accessible practically every important center of population throughout southwest Florida.

Jollyng Jess

After Jessie had been at the boarding school a few weeks she began signing her letters home "Jessica." Brother Tom thought he would give her a little dig about it, so he wrote:

"Dear Jessica: Dadica and Momica have gone to visit Aunt Lizzica. Uncle Samica is talking of buying a new machinica, but he doesn't know whether to get a Fordica or a Chevica. The old cowica has a calfica. I was going to call it Nellica, but I changed it to Jimica because it was a bullica. Your brother, Tomica."—Boston Transcript.

Status of Road Construction

THROUGH NOVEMBER 30, 1925

Project No.	Contractor.	Road No.	County	Total Length Miles	Clearing Miles	Grading Miles	Base Miles	Surface Miles	Per Cent Type Complete
37-D	Fla. Drainage & Const. Co.	2	Alachua	2.14	2.14	2.09			G. 98.00
40-A	C. F. Lytle	4	Brevard	16.17	16.17	15.04	13.84	0.00	S.T. 88.00
43	Wm. P. McDonald Const. Co.	2	Marion	10.44	10.44	10.44	10.44	10.38	S.A. 99.50
46	B. Booth & Co.	3	Nassau	11.52	10.95	9.52			G. 93.00
47	Boone & Wester	4	St. Johns	14.96	10.48	3.74			G. 38.00
514	State Forces	1	Jackson	11.04	0.00			0.00	S.C. 10.50
567	State Forces	1	Walton	21.35	20.93	16.01		16.01	S.C. 77.00
581	Barnes & Smith	5	Hillsborough	12.10	10.28	8.84	4.06	0.00	S.T. 61.00
586	Gillis Const. Co. & S. F.	1	Jackson-Washington	17.37	12.16	10.42		9.90	S.C. 73.00
595	J. L. Hunter	3	Volusia	7.43	5.20	1.48			G. 31.30
597	J. Y. Wilson	4	Volusia	16.29	16.29	13.85	13.85	0.00	S.T. 88.10
604	C. F. Lytle	4	Volusia	7.72	7.72	7.72	7.72	7.72	S.T. 100.00
607-B	Whitney Const. Co.	13	Clay	6.76	6.76	6.76	4.26	0.00	S.T. 75.00
612	State Forces	1	Leon	17.58	17.58	17.58		17.58	S.C. 100.00
613	Broadbent Const. Co.	5	Sarasota	4.62	4.62	4.39	0.00	0.00	S.A. 16.00
617	Taylor & Cox	5	Alachua	5.17	4.91	4.34			G. 80.80
618	J. R. & J. B. Miller	5	Alachua	10.89	8.71	4.79			G. 45.30
623	State Forces	35	Madison	12.91	8.99	8.99		0.00	S.C. 54.00
627	State Forces	2	Putnam	6.27	5.64	5.01	0.00	0.00	S.T. 30.50
628	L. M. Gray	3	Volusia	9.92	9.92	9.92	7.44	0.00	S.T. 84.00
630	Meyer Const. Co.	8	Highlands	11.00			10.72	5.50	S.T. 95.00
633	Taylor Contracting Co.	1	Gadsden	9.67	7.78	6.53		0.00	S.C. 49.10
634	State Forces	1	Jackson	11.07	9.30	7.42		4.43	S.C. 60.40
636	C. F. Lytle	8	St. Lucie	12.20			10.98	7.56	S.T. 88.30
637	State Forces	10	Leon	18.08	18.08	14.46		13.56	S.C. 78.70
639	Taylor Contracting Co.	1	Gadsden	9.83	8.84	8.84		0.00	S.C. 65.00
642	B. Booth & Co.	3	Putnam	10.82	10.28	7.63			G. 70.50
647	O. Hardin & H. E. Wolfe	8	Highlands	7.00		7.00	.37	0.00	S.T. 35.00
651	State Forces	10	Gulf	14.72	7.80	5.00		0.00	S.C. 12.50
655	State Forces	18	Highlands	13.26	11.93	8.88			G. 69.00
657	State Forces	6	Jackson	11.00	0.00	0.00		0.00	S.C. 0.00
661	Sou. Paving & Const. Co.	2	Lake	3.52	3.06	2.50	0.00	0.00	S.A. 17.00
666	State Forces	6	Jackson	10.00	0.00	0.00		0.00	S.C. 0.00
670	State Forces	6	Jackson	10.00	0.00	0.00		0.00	S.C. 0.00
672	State Forces	1	Leon	9.92	2.98	2.98		0.00	S.C. 22.30

TOTAL MILES COMPLETE

	Concrete	Brick	B.C.	S.A.	B.M.	Asp. Blk	S.T.	S.C.	Marl	Grad.	Total
Complete November 30, 1925	126.51	12.44	10.74	55.38	71.50	23.20	347.02	368.81	37.08	78.68	1,131.37
November, 1925	0.00	0.00	0.00	.20	0.00	0.00	6.38	5.63	0.00	5.19	17.40
Total to date	126.51	12.44	10.74	55.58	71.50	23.20	353.40	374.44	37.08	83.87	1,148.77

	Clearing Miles.	Graded Miles.	Base Miles	Surface Miles.
Complete November 30, 1925	1,184.35	1,127.92	456.84	1,069.89
November, 1925	8.85	20.01	4.96	15.96
Total to date	1,193.20	1,147.93	461.80	1,085.85

Note—The above tabulation shows only those projects that are actually under construction at the present time and does not show projects that have been previously completed. However, the table, "Total miles completed," at the foot includes all projects that have been completed prior to November 30, 1925, and the amounts completed in November also. The abbreviations used are as follows:

C.—Concrete. S.A.—Sheet asphalt. B.M.—Bituminous macadam. R.—Rock base. S.C.—Sand clay. G. & D.—Graded and drained. S.T.—Surface treated. B. C.—Bituminous concrete.

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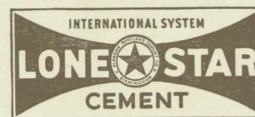
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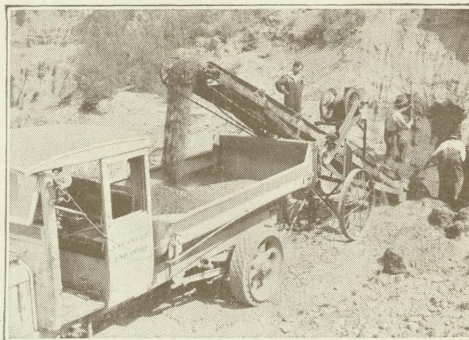
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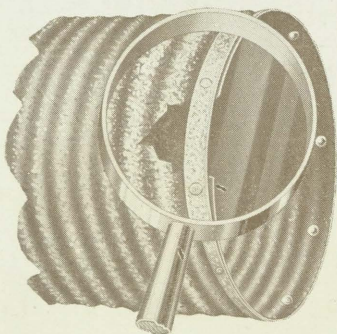
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